

International Development Fund report

Teaching microbiologists from the Western Balkans to work with pathogenic bacteria

Lancaster Environmental Centre (LEC) at Lancaster University is a partner in WaterWeb (www.waterweb.dk), an EU programme designed to contribute to development in the Western Balkans by introducing strategic water management for drought alleviation and sustainable agriculture. The main function of microbiologists in WaterWeb is to investigate the microbial quality of irrigation water and monitor any contamination of salad vegetables and fruit grown in that water. This fulfils one of the core functions of the World Health Authority, which is to assess the impact of water quality on food quality. The lead WaterWeb microbiologists from the Western Balkans are predominantly experts in agricultural and food microbiology but have limited experience of isolating pathogens, such as *Campylobacter* and *Listeria*, from environmental sources. To help with this, the SGM funded a research visit to LEC by microbiologists from Belgrade and Skopje.

In March 2005 Dr Vera Raicevic, Associate Professor specializing in soil and water microbiology in the Institute of Land Management, Faculty of Agriculture, University of Belgrade, Serbia, and Dr Vladimir Kakurinov, Teaching Professor and Research Associate specializing in food micro-

biology in the Department of Microbiology, Faculty of Agriculture Sciences and Food, University St Kiril and Metodij, Skopje, Republic of Macedonia, visited Lancaster.

Environmental samples, i.e. farm slurries, rabbit faeces and watercress, were tested for the presence of *E. coli*, *Salmonella*, *Campylobacter*, *Listeria* and *Aeromonas* using enrichment, selective media and appropriate incubation. Positive cultures were isolated, obtained in pure culture and identified phenotypically using microscopy and either API or MAST identification kits. The laboratory work was co-ordinated by Joanna Heaton, a PhD postgraduate researching microbial contamination of salad vegetables in the UK, also funded by WaterWeb.

We are confident that the appropriate skills were transferred as we have already received a report from Belgrade on the level of indicators and pathogens in irrigation water used in the area.

We are extremely grateful to the Society for their support for this visit.

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▲ *Listeria*, *Salmonella*, *Aeromonas* and *E. coli* isolates.

▲ Vladimir Kakurinov on the side of a slurry tank.

▲ Vera Raicevic sampling farm slurry.

All photos Keith Jones